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March 25, 2008

VIA MAIL
Charles L. A. Terreni
Chief Clark/Administrator
South Carolina Public Service commission
101 Executive Center Drive, Suite 100
Columbia, SC 29219

Re: Petition of the Office of Regulatory Staff to Establish Dockets to Consider Implementing the Requirements of Section 1251 (Net Metering and Additional Standards) of the Energy Policy Act of 2005
Docket Number: 2005-385-E

Mr, Terreni:

Enclosed please find an original of the Direct Testimony of Elizabeth M Smith in the above referenced docket. I am filing this testimony on behalf of myself. I am not acting in a representative capacity for any party other than myself. This testimony has been prepared for the hearing relevant to the matter cited above which is scheduled to begin on Tuesday, April 22, 2008, at 10:30 a.m.

By copy of this letter, I am also serving all other parties of record. Please le me know if you have any questions.

Yours truly,

Elizabeth M. Smith
Enclosure
Cc: Parties of Record

Testimony of Elizabeth M Smith
On behalf of
Interveners
Docket No. 2005-385-E

Q: Please state your name address and occupation
A: I am a business owner from Charleston. My address is 611 North Shore Dr, Charleston Sc 29412

Q: Please state your relevant experience to this issue
A: I am a homeowner interested in installing solar panels on my home both to reduce my energy costs and help meet South Carolina's clean & renewable energy needs. As a homeowner, I have investigated the mechanics and economics of installing solar panels on my home.. I have talked with SCE&G, the Office of Regulatory Staff, the Energy Office and NC Solar to gain an understanding of the proposed SCE&G net metering tariffs under consideration by the Public Service Commission. My interest in this subject has also lead me to investigate what is happening around the country and the world with solar photovoltaics .

Q: What is the purpose of your testimony?
A: The purpose of my testimony is to convey my concern to the Public Utilities Commission that the net metering tariffs proposed by SCE&G will discourage, rather than encourage, me, and other home owners, from becoming a home renewable energy generator.

Q: Can you describe why you would not be encouraged by the proposed tariffs.
A: Under , SCE&G RIDER TO TIME-OF-USE DEMAND RATES 7 AND 28 (EXPERIMENTAL), I am *required* to move from my current flat "conservation" eletric rate to this Rate 7 -- a time-of-use, demand rate. This rate structure is different from rate structures that SC residential customers are used to. It is hard for a consumer to understand and very hard for a residential consumer to predict or control.

Indeed, Mr. Anthony from SCE&G testified to the PSC on February 14th 2008 that the time-of-use demand rate "*took me a long time to understand*". And he works for a power company! Just the complexity of this rate, is a barrier for customers.

Worse, I really believe I am at risk of having monthly power bill go up after I install $30,000 worth of solar panels on my home. This new rate could raise my power bill before I start trying to reduce it with solar panels.

This rate adds a new monthly "*demand charge*". This "*demand charge*" is based my household's 15 minutes of peak "demand" each month. This 15 minute spike is both difficult to estimate and difficult to lower. This charge is likely to be over $100/month .In the summer, these 15 minute spikes will probably occur probably late in the day when my solar generation is declining. In the winter, the spikes will occur early in the morning, before solar generation begins. So the "peak demand charge" – which I didn't have to pay before I moved to solar –may well not be "reduced" by my solar generation.

An SCE&G staff member told me that SCE&G has only two customers who have chosen this rate.

Q: Why do you think this charge will be over $100/month.
A: Here is how my solar vendor and I have calculated this charge.

Here is a typical late summer afternoon power usage scenario for a family.

	watts			watts
AC2 Run non-stop	2500		Lights Various lights on in house	150
Water Heat 15 minutes	4500		TV Kids watching TV	250
Stove Cooking Chicken in oven - on 1/2 time	2500		Total 15 minute watt hour usage	12400
Burner Cooking Rice - 20 minutes on 1/2 time	1500		**Converted to kilowatt hour**	**12.4**
House Phantoms Constant Phantom Load - fridge, clocks, etc…	1000		**Possible Summer Demand charge @$10.25 kw hour**	**$127**

This power usage spike only has to happen for one 15 minute span in the month and a charge of $127 has been generated. In the winter this would generate a "peak demand charge" of $80. I have actually been using a whole house electricity consumption monitor for the last two months in my home. In both months, I have had a peak demand period at 12 kilowatt hours – as predicted by this chart.

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Q: SCE&G has also proposed a "flat rate option". Why can't you use that option?
A: SCE&G's other option is the use of an existing rate for selling power to the utility at "avoided cost". The "flat rate" option requested by the Public Utilities Commission, Rider to Rate PR-1, is not a really "net metering" option. That rider does not meet the federal definition or common usage of the term net metering. Net metering is generally used to describe a situation where a excess home generation is delivered to the power grid and offsets home power use each month.

Under PR-1, I would buy power at $.095 to $.10/kw and sell my excess at $.02/kilowatt or less – not much of an "offset". SCE&G staff have told me that no customer who uses this rate has covered the cost of the additional facilities charge levied when selling power under pr-1.

Q: Why don't you feel that the utility's "avoided cost" is a fair rate for the utility to pay you?
A: Any excess power I generate will flow out of my house to "the grid." That power will probably be immediately consumed by my neighbors. Those neighbors will pay SCE&G for the power I generated , as result of my investment in solar voltaics, at SCE&G's retail rate. SCE&G's actual marginal cost for the acquisition of this power is billing adjustments to my monthly bill while their income is "retail" from my generation is retail.

Q: Don't you think that 'fairness' to other rate payers is an important issue. Those rate payers who buy all their electricity from SCE&G, are providing a revenue stream that SCE&G needs to

build peak capacity. As a solar generator you wouldn't be providing your full share toward capacity, but would still want that capacity available if you needed it.

A: At the like levels of solar installations in South Carolina in the next several years, the financial impact on the utilities and other rate payers are trivial. North Carolina has about 100 customers. Residential Photovoltaic Metering and Interconnection Study, Utility Perspectives and Practices, put out by the industry sponsored Solar Electric Power Association, listed 101,466 photovoltaic installations in the entire country in 2006. If you subtract the California and New Jersey who have been at this a long time, other states run between 500 and 2000. I believe SCE&G has over 600,000 customers. With the very low caps in these tariffs, the near term financial risk to the SCE&G if South Carolina implementing attractive net metering standards is extremely low.

Additionally while, my brief peak spikes would occur outside of the highest of peak demand hours, my excess generation would put additional power on the grid on hot summer afternoons contributing very constructively to SCE&G's peak electric summer supply.

Q: In what way could the Public Service Commission adjust the proposed net metering tariffs to create a better incentive for home owners to pursue renewable energy?

A: I would like to have a choice of rates – one a time-of-use rate and the other the option to net meter with my existing rate.

The time-of-use rate should be just a time-of-use rate, but not a *demand* time-of-use rates. In the past, demand charges have generally been used in commercial installations, not in residential billing. In commercial installations, it is cost effective for companies to utilize sophisticated demand control devices which turn off electric device when power consumption hit a set "peak". Peak demand charges are unfair for homeowners who can't really control these peaks.

The straight time-of-use tariff would offer me an option to decide to do laundry, dishes and other high demand items either when my rates are lower or my solar production is at its peak. Other states have found that *mandating* time-of-use slow downs the adoption of solar, even if time-of-use can be advantage as consumers learn more about it.

I would also like to be able to just stay on the rate I currently use and be credited with excess usage on a monthly basis at that rate. This would allow homeowners like me to get into solar without being afraid that we can't anticipate how our electric bills would work.

Q: Is there anything else you would like to tell the Public Service Commission?

As South Carolina and the Public Service Commission move forward with renewable energy, I hope the PSC and the legislature can provide a simple, understandable state wide approach to renewable energy and net metering which will really encourage renewable energy in South Carolina. These changes are happening in other states and around the world. SC should look at what is working well elsewhere. The March 2008 Residential Photovoltaic Metering and Interconnection Study, Utlity Perspectives and Practices, put out by the industry sponsored Solar Electric Power Association, provides good information on the experience of utilities around the country

In my reading about net-metering issues, there appear to be power company rate structures and simplified interconnection standards that are working very successfully elsewhere for both the customers and the utilities. Looking at a recent power industry report from utilities that have a significant number of small generators, the biggest real issue power companies face doesn't seen to be revenue loss impacting their ability to deliver "peak power" or the accident potential from interconnected small generators. It is their computerized billing systems can't handle "positive" numbers.

So far, South Carolina has based its approach to renewable energy on the steps North Carolina has taken. North Carolina's net metering received an "F" grade from the Interstate Renewable Energy Council. North Carolina is already moving on to a different approach to renewables than what they put in place initially. The net metering tariffs in North Carolina have very, very few customers. What development of renewable power there has been in North Carolina has been made possible based on on charitable contributions form power customers – an approach unique to North Carolina. (We are planning on following that charitable approach to power generation here in South Carolina with PACE).

North Carolina has already moved on to a new approach based on Renewable Portfolio standard. There is an open net metering docket. I hope South Carolina can base our approach on successes in other states rather than follow North Carolina's already abandoned initial path. By taking the best of what other states have done, we should be able to develop a system that will attractive enough to customers to start and to stimulate a local SC alternate energy economy.

Florida, whose new net metering regulations received an "A" from the Interstate Renewable Energy Council, would be a model worth looking at:

> *"Customer net excess generation (NEG) is carried forward at the utility's retail rate (i.e., as a kilowatt-hour credit) to a customer's next bill for up to 12 months. At the end of a 12-month billing period, the utility pays the customer for any remaining NEG at the utility's avoided-cost rate. Renewable energy credits (RECs) remain with system owner, and customers may sell RECs back to the utility. There is no stated aggregate capacity limit for net-metered systems. "*

These regulations are simple and fair and are similar to the kind of simple regulations in place in many states.

Current electric rates spread costs among customers with uniform rates. Customers far from power plants or with located in challenging locations do not pay higher rates than customers who are more easily physically served with power. South Carolina finds it in the public interest to spread these costs across all rate payers.

Increasing our experience with and implementations of renewable energy is similarly very much in the public interest – both environmentally and economically.

Thank you very much for your time.